

**Workshop on South-South Cooperation on S&T to
Addressing Climate Change, Oct. 19, 2011, Beijing, P.R. China**

Promoting South-South Cooperation to Addressing Climate Change through S&T

CHEN Heping
China Science and Technology Exchange Center
2011.10.19, Beijing, China

Convention says (UNFCCC)

- ❖ Economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.
- ❖ The developed countries shall provide new and additional financial resources to meet the agreed full costs incurred by developing countries in complying with their obligations.
- ❖ The developed countries shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other countries, particularly developing country Parties.
- ❖ The Parties shall support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries.



UNITED NATIONS FRAMEWORK CONVENTION
ON CLIMATE CHANGE

联合国气候变化框架公约



UNITED NATIONS
1992



South-South cooperation

- ❖ **Developed countries fail to fulfill their obligations, people living in developing countries suffered from negative impacts of climate change.**
- ❖ **South-South cooperation has scored remarkable achievements and could play an important role in addressing climate change.**
- ❖ **South-South cooperation shall not exempt developed countries from their obligations of providing funds to, transferring technologies to and supporting capacity building in developing countries.**

Addressing CC by S&T

- ❖ **S&T is the most important way to address CC and plays key role in capacity building**
- ❖ **Technology needs of developing countries**
 - **Advanced technology: e.g. IGCC, CCS, nuclear, expensive and hard to absorb, operate and maintain in developing countries**
 - **Cost-effective technology: environmental-friendly, affordable, applicable, practicable, oriented towards end-user and local application, easy to absorb, operate and maintain, conducive to building local capacity**
 - **Cost-effective technology is more applicable in developing countries**

Addressing CC by S&T through South-South cooperation

- ❖ **Promote South-South cooperation in cost-effective technology**
 - **Cost-effective technology R&D**
 - **Cost-effective technology transfer**
- ❖ **Challenges in south-south cooperation**
 - **Demand and supply of cost-effective technology are unknown**
 - **Inaccurate assessment of technology needs (by IO or developed countries) may not meet the real demand of developing countries, overlook local conditions/capacities and indigenous knowledge, more focused on mitigation than on adaptation**
 - **Lack of effective mechanism for South-South cooperation on technology development and transfer**
 - **Difficulty in best practice/experience sharing and cooperation on cost-effective technology R&D**

Negative Impacts of CC on China

- ❖ China, with its large population and area, low GDP and income per capita, imbalances in socio-economic development, fragile eco-system, still a developing country.
 - 14 million population in poverty
- ❖ CC magnify disasters in China
 - Drought in the Southwestern China, spring 2010
 - 22 million people face difficulty in drinking , 111 million hectares arable land short of irrigation
 - Heavy rain and flood in southern China, summer, 2011
 - Zhouqu mudslide induced by heavy rain and deforestation, summer 2010
 - 1467 death, 298 missed, 1 city ruined
 - Typhoon Neoguri(2008), Nida(2009), Fanapi(2010), Nanmadol(2011)
 - Thousands of houses collapsed, transportation grids halt in coastal areas



Similarity of developing countries

- ❖ **Most developing countries are similar to China in the process of urbanization and industrialization.**
 - **Arid and semi-arid areas**
 - **Coastal areas and islands**
 - **Liable to drought, flood**
 - **Prone to natural disasters**
 - **Fragile ecosystem**
- ❖ **We have similar technology needs to address CC.**

Estimated Tech. needs of developing countries

Countries	Description	Tech. needs
North Africa, Mid-Asia	Arid and semi-arid areas	<ul style="list-style-type: none"> •Rain utilization technology •water reuse technology •Prevention of desertification technology
East Africa, Mid-Asia	Liable to drought	<ul style="list-style-type: none"> •Water-saving technology •Improvements of crop yields
Small island countries, Countries with coastal areas	Low-lying coastal areas	<ul style="list-style-type: none"> •Seawalls and storm surge barriers •Technology against sea level rise and flooding
Southeast Asia, Countries with coastal areas	Prone to natural disasters	<ul style="list-style-type: none"> •Weather forecast technology •Early warning technology •Epidemic prevention after flood, drought and earthquake
Mid Africa, Mountainous countries	Fragile ecosystem	<ul style="list-style-type: none"> •Environmental protection technology
LDCs	poverty	<ul style="list-style-type: none"> •Safe water technology •Improvements of crop yields

China's policy for international cooperation to address CC

- ❖ **National Medium- and Long-term Science and Technology Development Plan**
- ❖ **12th Five-Year Plan for China's Science and Technology**
- ❖ **China's Sci-Tech Special Action on Climate Change**
- ❖ **12th Five-Year Plan for China's Science and Technology Development Plan on Climate Change**

China's policy for international cooperation to address CC

- ❖ Incorporate S&T cooperation on climate change into bilateral and multilateral intergovernmental S&T cooperation agreements.
- ❖ Promote and participate in establishment of effective international technology transfer mechanism for the affordable, applicable, advanced and environment-friendly technologies to address climate change.
- ❖ Encourage and support the Chinese scientists, research institutions and enterprises to initiate and participate in international and regional scientific research and technological development programs on climate change.

China's experience of addressing CC through S&T

- ❖ **China has introduced and developed a lot of cost-effective technologies to address CC**
 - **Renewable energy**
 - **Water utilization**
 - **Agriculture**
 - **Building materials**
- ❖ **China has conducted fruitful cooperation with other developing countries.**
- ❖ **Cooperation has taken effects in addressing CC, reducing poverty and building local capacity**

Renewable energy technology

❖ Cost-effective technology

- Solar heater
- Small hydropower
- Biogas

❖ Cooperation with Vanuatu, Vietnam, Zambia, etc

❖ Reducing CO₂ emission and mitigating energy crisis.

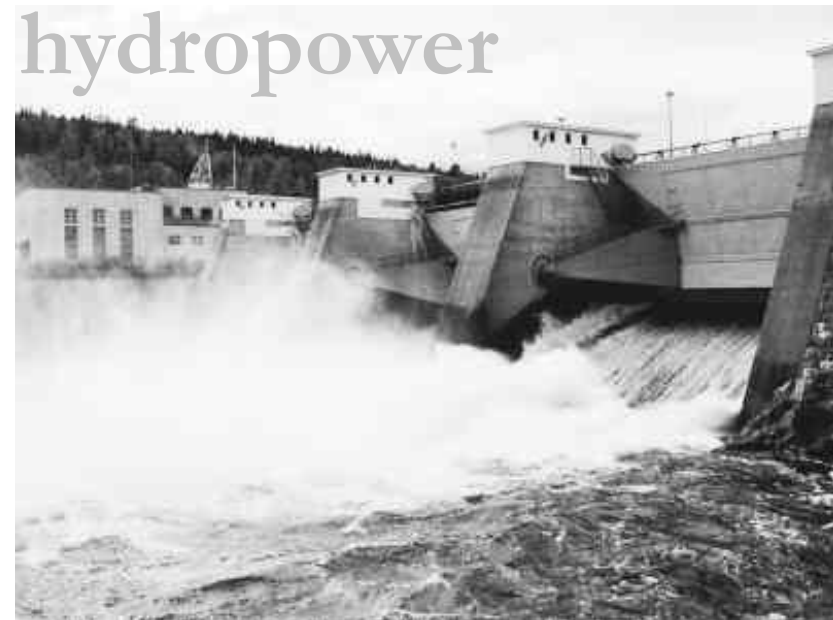
Solar heater



hydropower



hydropower



biogas



Rain utilization and water-saving technology

❖ Cost-effective technology

- Rain harvesting and utilization technology**
- Household water-saving technology**
- Water reuse technology**
- Safe drinking water technology**

❖ Cooperation with Caribbean, Nigeria, Kenya, etc

❖ Adaptation to drought and solution to water shortage



rain utilization



water reuse



water saving



Safe drinking

Agriculture technology

❖ Cost-effective technology

- Water-saving agriculture technology
- Crop yields improvement technology
- Agriculture machinery

❖ Cooperation with Kazakhstan, Angola, Sri Lanka, etc

❖ Adaptation to drought and solution to hunger



drip irrigation



drought-resistant



machinery



harvest

Tri-party cooperation with International organization

- ❖ **MOST-UNEP cooperation in environmental technology in Africa**
 - **Re-use of Waste Water for Forest Plantation Irrigation project**
 - **Training and Technical support on Rainwater Harvesting**
 - **Enhance the Capacity of Monitoring Shared Water Resources of Lake Tanganyika**
 - **Drought early warning systems and adaptation to drought**
- ❖ **Win-win in addressing CC**



Other work: Technology Manual & network/platform

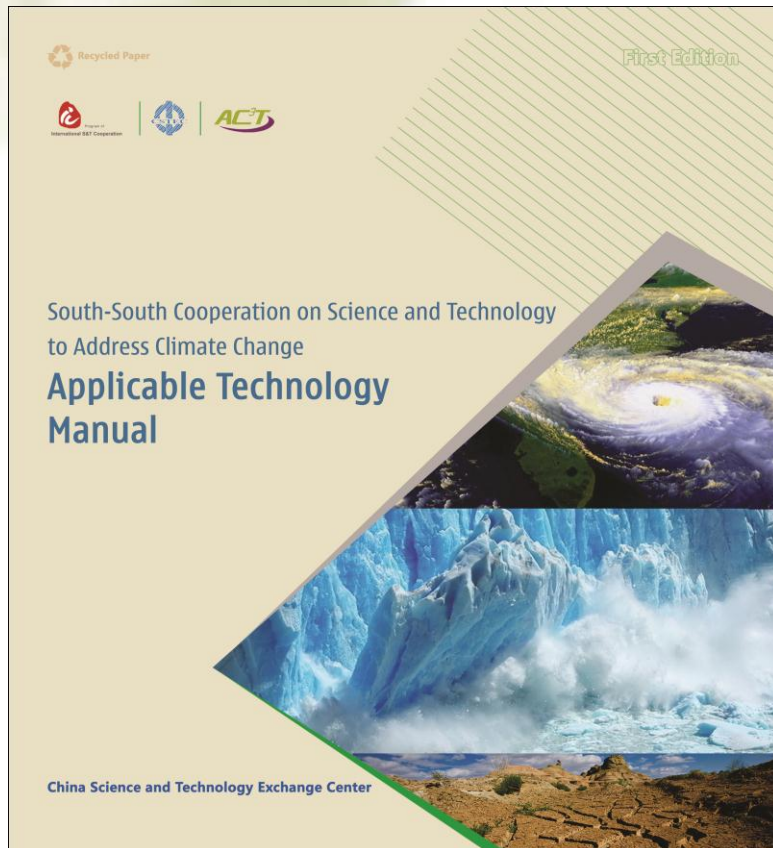
❖ *The Applicable Technology Manual*

- A collection of affordable, practicable, low-maintenance technologies for climate change adaptation and mitigation
- 1st Edition issued in Cancun, and well received.
- 2nd Edition is prepared, to be issued in Durban.

❖ The network/platform

- To establish a platform/network including a website to promote international cooperation on technology development and transfer in the field of climate change.
- ❖ Supported by MOST, cooperated with IOs**

Technology Manual & network/platform



Screenshot of the International Science and Technology Cooperation Information Service Platform website.

URL: <http://218.247.186.212:5566/CISTC/Web/Index.aspx>

Navigation: 查看 (V) 收藏夹 (A) 工具 (T) 帮助 (H)

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人才需求名称	需求单位
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Conclusion

- ❖ Experience gained from efforts to addressing CC in developing countries
 - Identify real technology needs first
 - Technology is important while local capacity is more important
 - Cost-effective and more applicable technology will prevail
- ❖ Developing countries have huge demand of cooperation in technology R&D and transfer.
- ❖ Similarity in natural conditions and developing stages among many developing countries, so cooperation in technology development and transfer is possible, preferable, and could be effective.

Suggestions

- ❖ **Promote S&T cooperation among developing countries is one of the most effective way to address CC .**
- ❖ **Understanding technology needs of developing countries and establishing mechanism for south-south cooperation on technology development and transfer are top priorities for south-south cooperation.**
- ❖ **Build network of technology supply and demand in developing countries.**
- ❖ **Expecting to release Beijing Statement.**



Thanks for your attention!